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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,528	10/18/2001	Andrew William Mackie	004968-056	7291

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BOSTON, MA 02110-1618

EXAMINER

JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/042,528	Applicant(s) MACKIE, ANDREW WILLIAM	
	Examiner Jakieda R. Jackson	Art Unit 2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-9 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-2** are rejected under 35 U.S.C. 102(e) as being anticipated by Matsubayashi et al. (USPN 6,473,754), hereinafter referenced as Matsubayashi.

Regarding **claim 1**, Matsubayashi discloses a method for segmenting compound words in an unrestricted natural-language input, the method comprising:

receiving a natural-language input consisting of a plurality of characters (column 16, lines 11-18);

constructing a set of probabilistic breakpoints in the natural-language input based on probabilistic analysis (column 15, lines 47-56 with column 20, lines 40-48);

identifying a plurality of linkable components by traversal of substrings of the natural-language input delimited by the set probabilistic breakpoints (column 18, line 64 – column 19, line 6 and column 24, lines 19-24); and

returning a segmented string consisting of a plurality of linkable components spanning the natural-language input, wherein the segmented string is interpretable as a

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compound word (column 16, line 65 – column 17, line 3 with column 18, lines 42-47 and column 24, lines 55-62).

Regarding **claim 2**, Matsubayashi discloses a method further including the step of analyzing a chart of the linkable components in the case that the segmented string cannot be constructed and returning an unsegmented string interpretable as a partial analysis of a compound word (column 21, lines 24-44).

3. **Claim 1** is *alternately* rejected under 35 U.S.C. 102(e) as being anticipated by Iizuka (USPN 20010009009).

Regarding **claim 1**, Iizuka discloses a method for segmenting compound words in an unrestricted natural-language input, the method comprising:

receiving a natural-language input consisting of a plurality of characters (inputs; test; column 5, paragraph 0086);

constructing a set of probabilistic breakpoints (divides into words) in the natural-language input based on probabilistic analysis (probability; column 5, paragraph 0086);

identifying a plurality of linkable (reference to) components by traversal of substrings of the natural-language input delimited by the set probabilistic breakpoints (column 5, paragraph 0086); and

returning a segmented string consisting of a plurality of linkable components spanning the natural-language input, wherein the segmented string is interpretable as a compound word (column 5, paragraph 0086 with column 16, paragraph 0269).

***Allowable Subject Matter***

4. **Claims 3-9** are allowed.

The following is a statement of reasons for allowance:

As for independent claim 3, it recites an apparatus for segmenting compound words in a natural-language input. Prior art such as Franz show a similar configuration but fails to teach the recited configuration wherein a probabilistic breakpoint analyzer is coupled to the startpoint probability matrix, the endpoint probability matrix and the natural-language input, the probabilistic breakpoint analyzer being operative to generate a breakpoint-annotated input from the natural-language input.

Dependent claims 4-9 are allowed because they further limit their parent claims.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

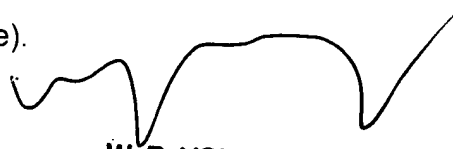
- Franz et al. (USPN 6,393,388) disclose an example-based translation method and system employing multi-stage syntax dividing.
- Baker et al. (USPN 5,754,972) disclose a speech recognition system for languages with compound words.
- Spies (USPN 5,797,122) discloses a method and system using separate context and constituent probabilities for speech recognition in languages with compound words.

- Ejerhed (USPN 6,754,617) discloses a method for automatically determining solid compound words.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571.272.7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



W. R. YOUNG  
PRIMARY EXAMINER

JRJ  
November 22, 2005